INSTALLATION & SERVICE MANUAL

Under-the-sink Reverse Osmosis System

Model: RO2000 Series B

System Tested and Certified by NSF International against NSF/ANSI Standard 58 for the reduction of Barium, Cadmium, Copper, Cyst, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium as verified and substantiated by test data

OMNIFILTER®
Clean Water Solutions®

293 Wright Street, Delavan, WI 53115
Phone: 1-800-937-6664 www.omnifilter.com

© Copyright 2006 OMNIFILTER

Printed in the U.S.A.

Thank you for choosing an Omni RO2000 Reverse Osmosis Drinking Water System. With proper care your water filtration system will produce high quality drinking water for many years.

Read carefully and follow the instructions in this manual before proceeding with the actual installation. Pay particular attention to all warnings, cautions and notes. Failure to do so could result in personal injury or damage to the equipment or other property. System and installation needs to comply with state and local laws and regulations.
If you have any questions, please contact us at 800-937-6664.

CHECK LIST:

1) RO2000 Reverse Osmosis Unit.
2) Water storage tank, 5 gallon volume (2.8 gallon @40psi).
3) Installation kit: tank ball valve, drain saddle valve, feed water valve, faucet assembly.
4) Four colored tubings (black, red, yellow, blue) 4 feet each color.
5) Manual and warranties.

1) Reverse Osmosis Unit

2) Water Storage tank
5 Gallon

3) Installation kits

4) Four colored tubing
Attached to RO unit

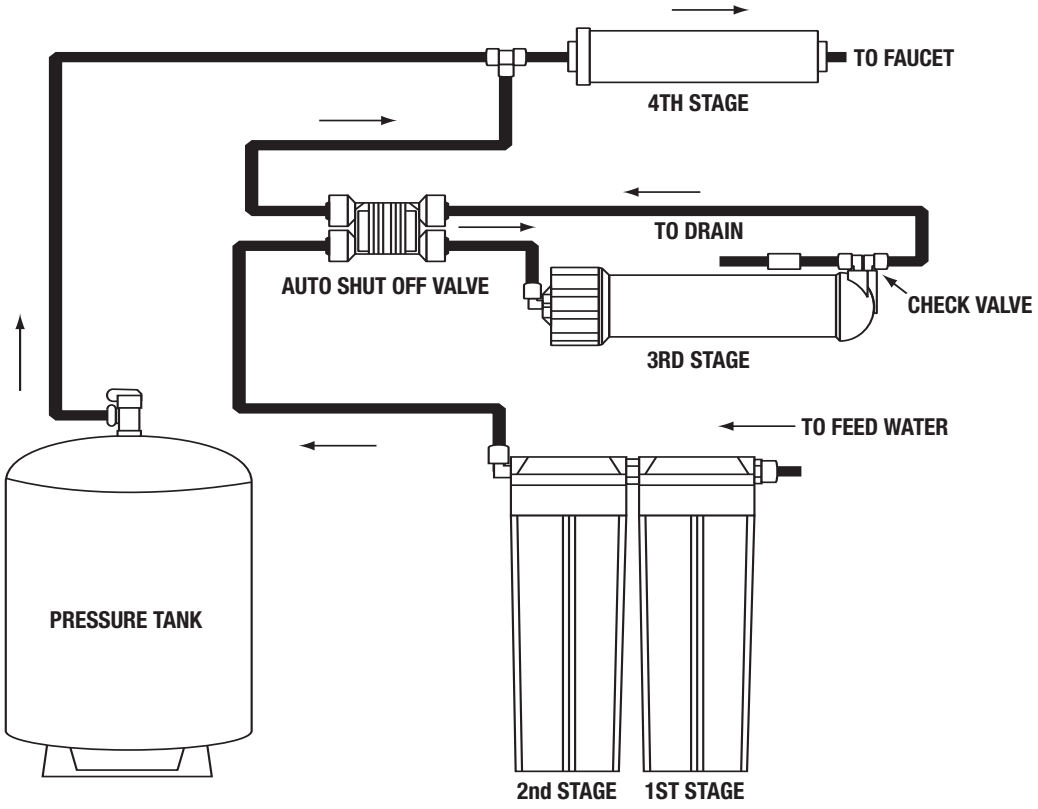
RECOMMENDED TOOLS LIST

- ✱ Variable speed drill
- ✱ 1/8" and 1/4" drill bits
- ✱ 7/8" drill bit 1/2" and 9/16" open-end wrenches (or adjustable)
- ✱ Phillips screwdriver
- ✱ Utility knife
- ✱ Teflon tape

This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids. The product water shall be tested periodically to verify that the system is performing satisfactorily.
System Tested and Certified by NSF International against NSF/ANSI Standard 58 for the reduction of Barium, Cadmium, Copper, Cyst, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium.
Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

© Copyright 2006 OMNIFILTER

RO2000 FILTRATION PROCESS



SPECIFICATIONS:

1st stage: Sediment filter
2nd stage: Carbon filter
3rd stage: TFC membrane
4th stage: Inline carbon filter
Auto shut off valve
Operating pressure: 50-90 PSI
Operating temperature: 40-100°F
Recovery rate: 16%

Please contact your local dealer at:
or call OMNIFILTER at 1-800-937-6664.

REPLACEMENT PARTS

OMNI ITEM#	DESCRIPTIONS	SERVICE LIFE
RS4	Sediment filter	4 months
CB1	Carbon block filter	4 months
OM1	TFC membrane	24-36 months
R200	Inline carbon filter	12 months

© Copyright 2006 OMNIFILTER

Performance Data Sheet

OMNIFILTER Clean Water Solutions
293 Wright Street
Delavan, WI 53115
Phone: 1-800-937-6664

Model# RO2000 Series B

Operating Pressure: 50-90 PSI
Operating Temperature: 40-100 F
Water Hardness: <120 ppm (7 gpg)
pH Range: 3-11
TDS: <1000 ppm
The performance claims are made by the RO2000 Series B.

This system has been tested according to NSF/ANSI 58 for the reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 58.

Specifications

Daily Production Rate	7.2 GPD
Volume of Unit	3.4 gallon
Recovery Rate	16%
Pressure Drop at Rated Flow	5 PSI
System Weight	5 lbs
System Dimension	15x5.5x17.5

Test parameters of 25°±1°C, 50 psi, and pH of 7.5±.5.

Function

Barium Reduction
Cadmium Reduction
Copper Reduction
Cyst Reduction
Hexavalent Chromium Reduction
Lead Reduction
Radium 226/228 Reduction
Selenium Reduction
TDS Reduction
Trivalent Chromium Reduction

NSF

System tested and certified by NSF international against NSF/ANSI Standard 58 for the reduction of Barium, Cadmium, Copper, Cyst, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium

General Installation/Operation/Maintenance Requirements

- Installation needs to comply with state and local laws and regulations
- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
- This system shall only be used for arsenic reduction on chlorinated water supplies containing detectable free chlorine residual and should provide a one minute chlorine contact time before the RO system.
- This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids. The product water shall be tested periodically to verify that system is performing satisfactorily.

Replacement Parts

OMNI ITEM#	DESCRIPTIONS	SERVICE LIFE
RS4	Sediment filter	4 months
CB1	Carbon block filter	4 months
OM1	TFC membrane	24-36 months
R200	Inline carbon filter	12 months

Warranty

RO2000 Series B Reverse Osmosis Systems are warranted to the original owner to be free of defects in material and workmanship from the date of manufacturing for one year. While testing was performed under laboratory conditions, actual performance may vary.

© Copyright 2006 OMNIFILTER

Performance Test Data: Model # RO2000 Series B

Substance	Influent Challenge Concentration mg/L	Maximum Permissible Product Water Concentration mg/L
Barium	10.0 ± 10%	2.0
Cadmium	0.03 ± 10%	0.005
Chromium (Hexavalent)	0.3 ± 10%	0.1
Chromium (Trivalent)	0.3 ± 10%	0.1
Copper	3.0 ± 10%	1.3
Lead	0.15 ± 10%	0.010
Radium 226/228	25 pCi/L ± 10%	5 pCi/L
Selenium	0.10 ± 10%	0.05
Total Dissolved Solids	750 ± 40 mg/L	187

Substance	Influent Challenge Concentration	Reduction Requirement
Cyst	Minimum 50,000/mg/L	99.95%

Performance Indication: A sampling kit for analysis of TDS

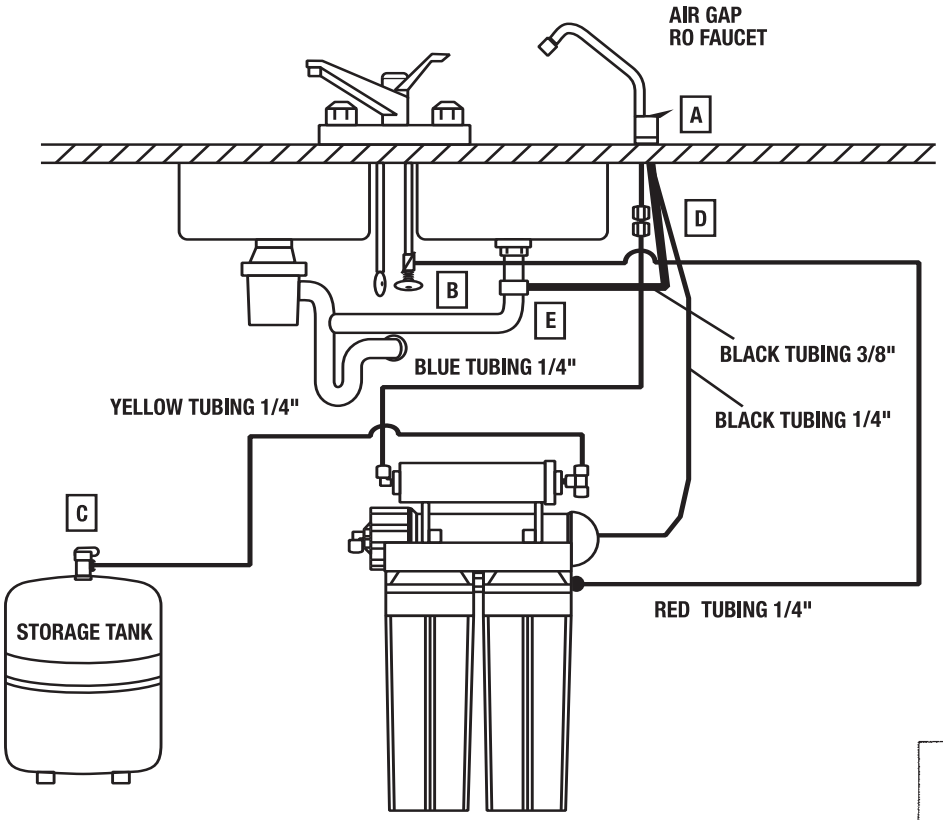
The Omnifilter model RO2000 Series B reverse osmosis system contains a replaceable treatment component critical for effective reduction of TDS (Total Dissolved Solids). The product water shall be tested periodically to verify that the system is performing satisfactorily.

The TDS sampling kit is included with this system in a separate bag. This sampling kit will be used to compare your kitchen tap water against the reverse osmosis drinking water to determine if the membrane needs to be replaced.

This sampling kit includes: Two (2) sample bottles with labels, one (1) Padded envelope with mailing label and one (1) Instruction sheet

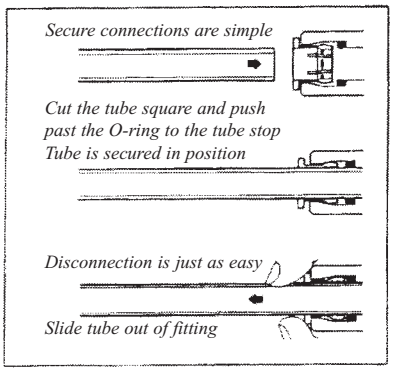
 © Copyright 2006 OMNIFILTER

Please follow by 4 color coded tubing connection to complete installation



CAUTION: When cutting supplied tubes, predetermine the length by measuring the distance between the components to be connected.

No tools are needed to connect 4 colored tubes.


Secure connections are simple
Cut the tube square and push
past the O-ring to the tube stop
Tube is secured in position
Disconnection is just as easy
Slide tube out of fitting

	4 Connections	Color of Tubing	Description
A	RO Faucet	Blue	RO Water to the Faucet
B	Feed Water Valve	Red	Feed Water to RO System
C	Tank Ball Valve	Yellow	RO Water to Storage Tank
D	Air Gap Connector	Black 1/4"	Discharge Water to Air Gap Faucet
E	Drain Connector	Black 3/8"	Discharge Water From Air Gap Faucet to Drain

© Copyright 2006 OMNIFILTER

INSTALLATION

STEP 1: INSTALLING THE FAUCET

1) Determine the desired location for your RO faucet on your sink surface. There maybe an existing hole in the back area of the sink for use with a sprayer or soap dispenser. This hole can be used for the RO faucet. (skip to step #6).

2) Place a piece of masking tape or duct tape on the determined location where hole is to be drilled.

3) Use a variable speed drill at slow speed with a 1/8" (3 mm) drill and drill a centering hole in the center of the desired faucet location. Use lubricating oil to keep the drill bit cool while drilling.

4) Enlarge the hole using a 1/4" (6.4 mm) drill bit. Use factory approved method or approved plumbing practice to drill hole in sink.

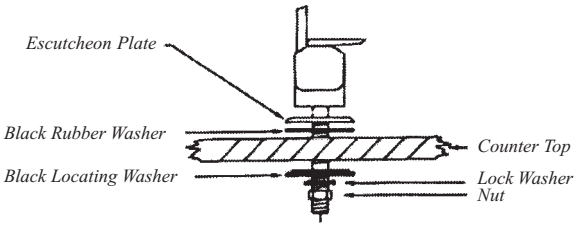
5) Enlarge the hole to 1-1/4" diameter. Keep bit well oiled and drill slowly.

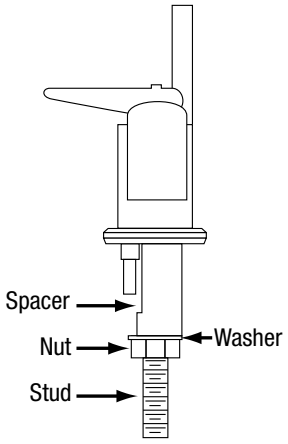
6) Slide the large chrome escutcheon base plate and the matching large rubber washer, in that order, over the faucet stud at the bottom of the faucet.

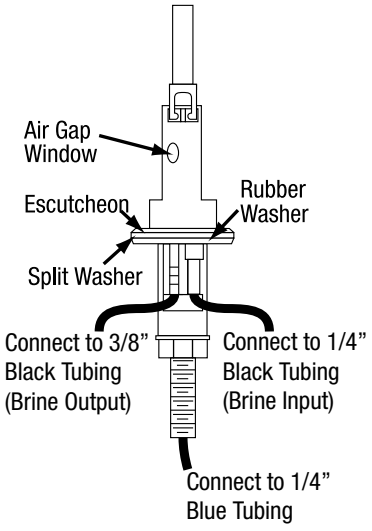
7) Firmly push the provided black 3/8” tube over the large barb fitting on the bottom of the faucet. The tubing may not push all the way to the end of the connection, but must be installed securely over the barbed portion of the fitting to prevent leaks. Leave the full length of tubing attached at this time as it will be trimmed in a subsequent step.

8) Feed the black 1/4” tubing attached to the membrane housing through the hole in the sink. Trim this tubing so there is only 12” more than needed to make a comfortable installation. Firmly push the black 1/4” tube over the small barb fitting on the bottom of the faucet. The tubing may not push all the way to the end of the connection, but must be installed securely over the barbed portion of the fitting to prevent leaks.

Air Gap Faucet







 © Copyright 2006 OMNIFILTER

9) From above the sink, pass the black 3/8" drain tube through the hole in the sink. Installation of the faucet from this point is far easier with a helper.

10) Hold the faucet centered in the hole and in the desired position. Be sure the large rubber seal is centered under the large chrome escutcheon base plate.

11) From underneath the sink, position the following parts in this order… Install the large split washer, plastic spacer (plastic spacer is installed with the open side facing up and parallel with the black tubes), metal flat washer, internal locking washer and hex nut onto the faucet stud. Discard the included small rubber washer as it is not used with the faucet provided for this system.

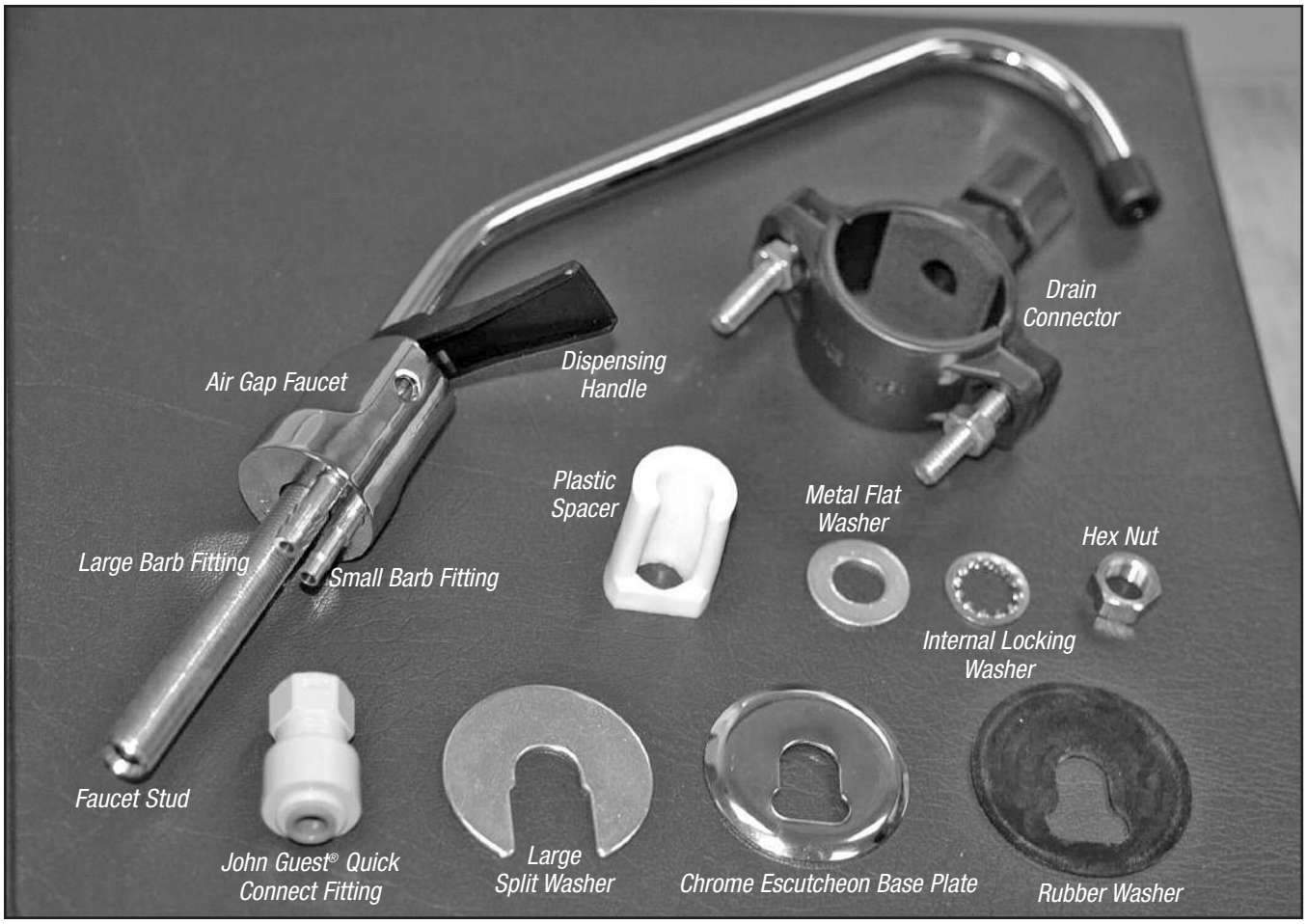
12) While maintaining all parts in the centered and desired position, carefully and securely tighten the hex nut on the faucet stud. (A basin wrench is handy for this step) WARNING; Over-tightening the faucet to the sink may damage the faucet and or sink.

13) Install the provided John Guest® quick connect fitting to the bottom of the faucet stud. Securely push the blue 1/4" tube coming from the horizontal inline post filter into this fitting.

14) The black 3/8" tube previously connected to the faucet will need to be attached to the drain connector that will be installed in a later step. It is of utmost importance that this 3/8" tube be trimmed so there is little extra tubing from the connecting points. There can be no loops, sharp bends or kinks in this tube. When installed, the drain clamp must be lined up with the hole to be drilled in the drain pipe. The air gap faucet must always have unrestricted flow from the faucet to the drain. A restriction in this portion of the system will result in water dripping or leaking from the small hole on the side of the faucet just under the dispensing handle.

15) The faucet dispensing handle may be pushed and held down for instant water or pulled up into the locked position for continuous flow.

© Copyright 2006 OMNIFILTER



Air gap faucet with installation kit

Completed Air gap faucet installation

 © Copyright 2006 OMNIFILTER

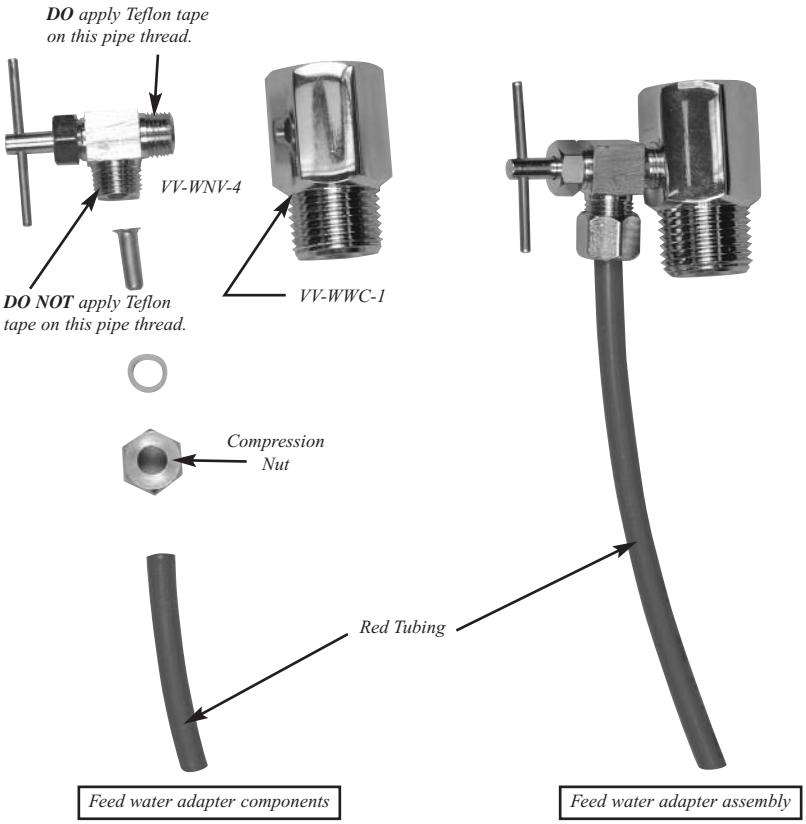
STEP 2: CONNECTING TO THE COLD WATER LINE

Caution: The water supply to your unit MUST be from the COLD WATER LINE. Hot water will severely damage your R.O. System.

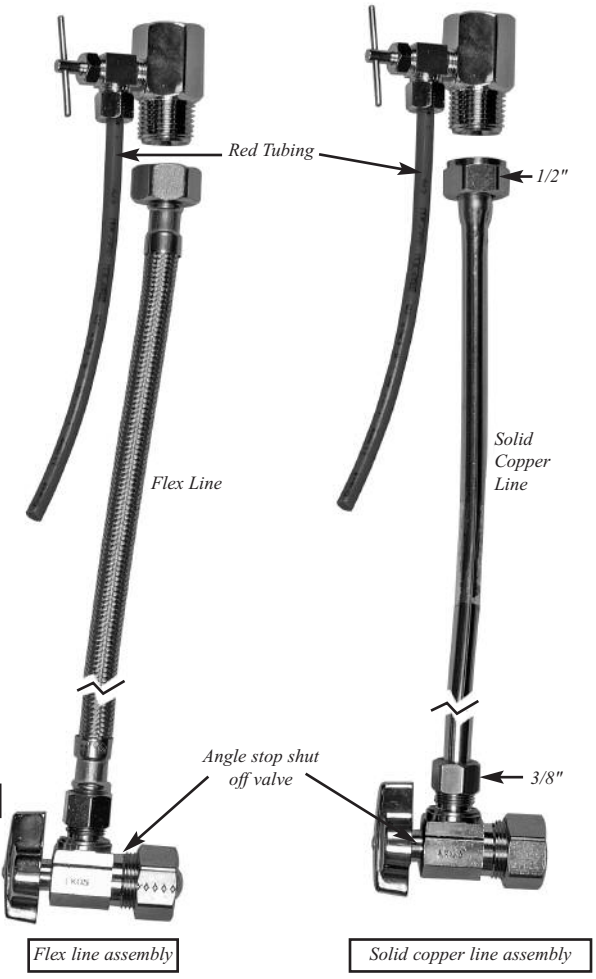
1) Locate cold water angle stop shut off valve underneath the sink and turn it off. Open cold water faucet to release the pressure. If water continues to come out of faucet with angle valve turned off, the house main will have to be turned off.

2) Locate feed water adapter (VV-WWC-1) in the installation kit. The angle needle valve (VV-WNV-4) should be installed into the feed water adapter (VV-WWC-1) prior to connecting assembly to the feed water line. See figure #3. To prevent leaks, teflon tape must be applied to the angle valve pipe threads that connect to the feed water adapter. Do not put teflon tape on the needle valve threads for the compression nut.

3) Disconnect the cold water riser tube and install the feed water adapter.



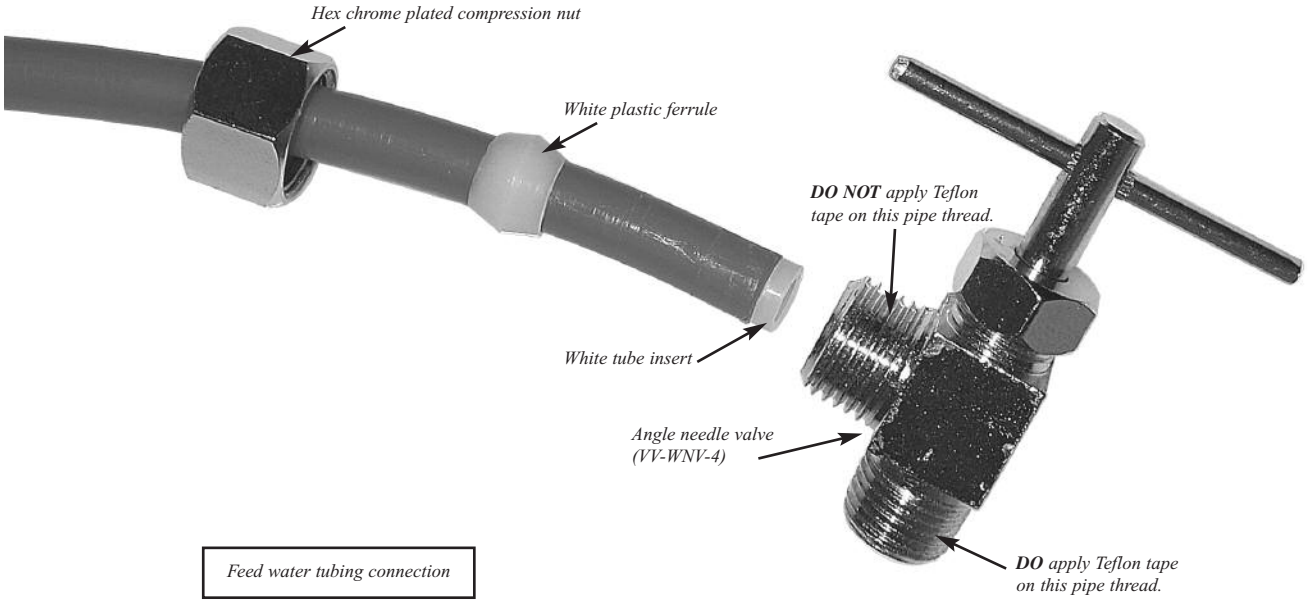
<Fig. 3>



<Fig. 4>

 © Copyright 2006 OMNIFILTER

4) Please follow <Fig. 4> for flex line and solid copper riser installation.
   a) Flex line:
      Loosen nut and separate cold water riser tube from faucet shank. Gently bend riser tube so that feed water adapter fits onto faucet shank. Replace the existing cone washer with the new washer if needed. The new washer is provided in the installation kit. Reinstall riser tube onto feed water adapter (VV-WWC-1) and tighten.
   b) Solid copper riser tube: follow procedure (4a) except you may need to cut a piece of the riser tube about 3/4" or 1" so the feed water adapter can fit between the faucet and riser tube.
5) Connect red tubing to angle needle valve (VV-WNV-4).


Hex chrome plated compression nut
White plastic ferrule
DO NOT apply Teflon tape on this pipe thread.
White tube insert
Angle needle valve (VV-WNV-4)
DO apply Teflon tape on this pipe thread.

Feed water tubing connection

   a) Slide the hex chrome plated compression nut with the thread facing the end of the red tubing
   b) Slide the white plastic ferrule onto the red tubing.
   c) Install the white tube insert into the end of the red tubing.
   d) Push the red tubing with the white insert into the angle needle valve.
   e) Use a wrench to securely tighten the hex chrome plated compression nut with the matching compression thread.
   f) Do not use Teflon tape on this compression connection.

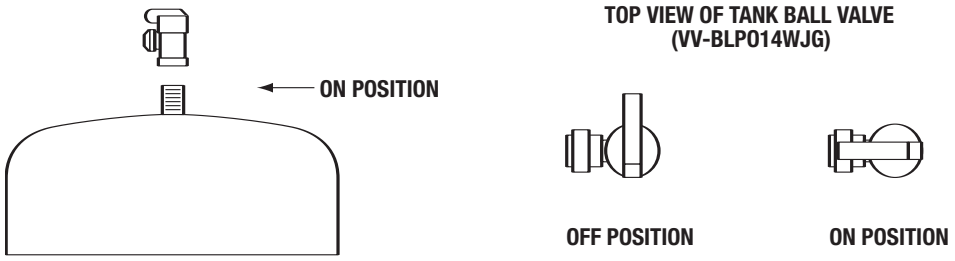
 © Copyright 2006 OMNIFILTER

STEP 3: MOUNTING THE TANK BALL VALVE

Note: Do not tamper with the air valve on low side of storage tank. It has been preset at 8-10 psi by the manufacturers.

1) Unplug the plastic cap on the top of the tank.
2) Wrap the thread 3 times with plumbers (Teflon) tape only.
3) Connect the ball valve to the thread. Make sure it is tight but not over-tight. See <Fig. 5>.
4) Connect the yellow tubing from to the tank ball valve

Turn the tank ball valve off.

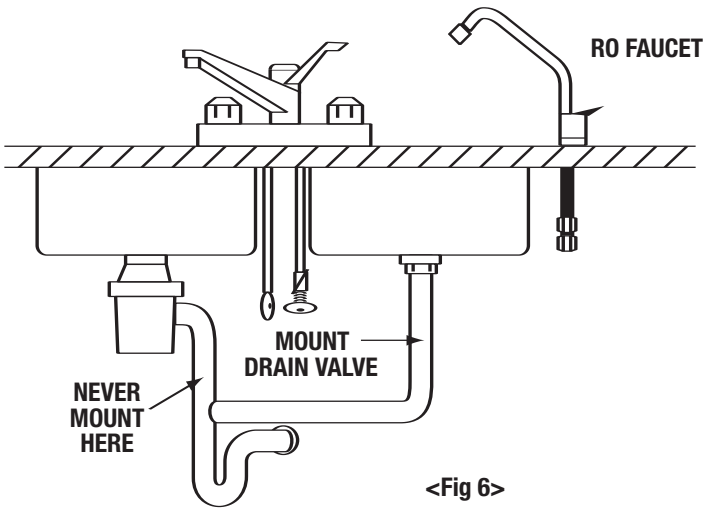


<Fig 5>

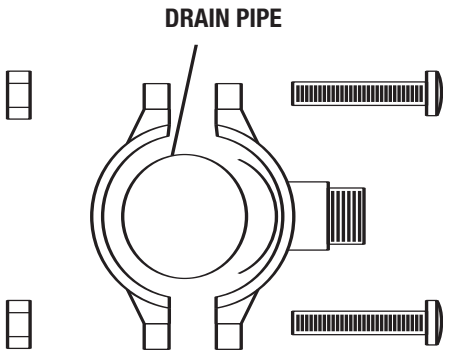
STEP 4: MOUNTING THE DRAIN CLAMP

The drain clamp will fit most standard drain pipe 1-1/4". It should be installed above the trap and on the vertical tailpiece. See <Fig. 6>

1) Position the drain saddle in desired location, mark spot through thread outlet, remove saddle.
2) Drill 1/4"(6.3mm) hole into the drain pipe above the water line of trap.
3) Align the hole drilled in the drain pipe with the drain saddle using a drill bit or other narrow straight object and tighten clamp.
4) Make sure to align drain saddle to drilled hole. Attach drain saddle to drain pipe and tighten the two screws evenly. See <Fig. 7>.
5) Connect 3/8" black tubing to drain clamp.



<Fig 6>



<Fig 7

 © Copyright 2006 OMNIFILTER

STEP 5: SYSTEM START UP

1) Turn on the cold water supply and the under sink feed water valve but close the tank ball valve.
2) Open RO faucet (lever to the up position) for continuous flow.
3) Check system for leaks, tighten as necessary.
4) After 10-30 minutes, the water will start to drip out of the RO faucet. Let it drip for about 10 minutes and then flip the handle to the closed position. **TURN ON THE TANK BALL VALVE NOW**. It will now take several hours (2-3) for the storage tank to fill, depending on the local water pressure.

DO NOT DRINK THE WATER FROM THE FIRST TANK PRODUCED BY YOUR NEWLY PURCHASED SYSTEM

5) After the tank is full (you will hear the water stop), flush the system by placing the RO faucet in the open position until the water is completely discharged.
6) Upon complete discharge of storage tank, flip handle to closed position on RO faucet and let the refilling process begin. This process could take 2-3 hours to complete.
7) After the second tank is filled, you may enjoy the pure water.
8) Check leaks daily for first week and periodically thereafter.
9) You may notice that the water may be milky colored during the first week. It may be air in the water. It is normal and safe.

NOTE:

1). Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
2). This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.

■ **WARNING:** Do not use this RO system appliance to purify non-drinkable sources of water that are unsafe or with water of unknown quality.

■ **WARNING:** Never use hot water or freeze unit.

■ **WARNING:** Incorrect installation will VOID the warranty.

 © Copyright 2006 OMNIFILTER

PREVENTIVE MAINTENANCE

This recommendation is intended for maximum efficiency of RO water production by your system.

1) Filter maintenance

a) It is OK to put filters on the shelf for several years.

b) To keep the sealed, non-opened filter, we recommended to put it into some air-tight container, preventing it from absorbing the air. This prolongs the shelf life of carbon filter (particularly, if you order the replacement filter for more than one years usage) and avoids any possible odor from the air.

2) Membrane maintenance

a) The dry packed membrane usually has a two-year shelf life. To prolong the shelf life, we recommended keeping non-opened dry membrane in refrigerator.

b) Once being used, we recommend you run the RO system every day, at least 2 minutes (about 1 gallon or 4 liters drinking water). This helps to maintain the membrane performance.

c) If you do not use the RO system for long periods, drain the storage tank before using. Fill the tank and drain it twice. Your RO system is then ready to use.

3) Filter and membrane change procedures:

a) Shut off the water supply.

b) Turn off the tank ball valve by turning 90 degree.

c) Open RO faucet to continuous flow position.

d) Lift the filter housing up 1" and slid on the housing wench. Use one hand to hold the system and the other hand to turn the wrench counter-clockwise to open the housing.

Note: If it is too tight to open the housing you may try to unplug the fitting between red tubing and the systems in order to reduce the air and water pressure inside the housing

e) After opening the housing, remove the used filter and put the new filter into the housing. Make sure the O-ring is in place and turn the housing clockwise to close.

f) Repeat previous step on the subsequent filter changes..

g) Turn on the water supply and make sure there are no leaks.

h) Let the water drip from faucet for about 10 minutes. If the water flow is less than 1 cup (8 oz. or 240 ml) per minute, it may be an indication to change the membrane.

i) Membrane change procedures:

- Unscrew the cap of the membrane housing.
- Slid out the used membrane and discard.
- Insert the new membrane with 2 o-rings into housing first, the black brine seal around membrane last. Be sure it is fully seated into bottom end
- Screw cap back on to the membrane housing, make sure o-ring is still in place.
- It may take 10-20 minutes for new membrane to run to normal flow.

If the water flow is OK, then turn on the tank ball valve. After 1 minute, turn off the RO faucet and complete the filter change procedures.

 © Copyright 2006 OMNIFILTER

TROUBLE SHOOTING

Note: Turn off the system before servicing.

PROBLEM	CAUSE	SOLUTIONS
Milky colored water	✓Air in system	■ Air in the system is a normal occurrence with initial startup of the RO system. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from faucet	✓Air gap faucet ✓Location of drain saddle ✓Restriction in drain line	■ Will disappear after system shuts down ■ Relocate the drain to above water trap. ■ Blockage sometimes caused by debris from garbage disposal or dishwasher
Small amount of water from storage tank	✓System just starting up ✓Air pressure in storage tank is low	■ Normally it takes 2-3 hours to fill tank. Low water pressure and/or temperatures can reduce production rate. ■ Add pressure to storage tank. The pressure should be 8-10 psi when the tank is empty
Slow production	✓Low water pressure ✓Crimps in tubing ✓Clogged prefilters ✓Fouled membrane	■ Add a booster pump ■ Make sure tubing is straight ■ Replace prefilters ■ Replace membrane
Water taste or smell offensive	✓Post carbon is depleted ✓Fouled membrane ✓Sanitizer not flushed out	■ Replace post carbon ■ Replace membrane ■ Drain storage tank and Refill it overnight
No drain water	✓Clogged flow restrictor	■ Replace flow restrictor
Leaks	✓Fittings are not tightened ✓Twisted O-ring ✓Misalignment of hole in drain saddle	■ Tighten fittings as necessary ■ Replace a o-ring ■ Realign drain saddle

© Copyright 2006 OMNIFILTER

OMNIFILTER®
Clean Water Solutions®

293 Wright Street, Delavan, WI 53115
Phone: 1-800-937-6664 www.omnifilter.com